

LABORATORY REPORT

Prepared For: Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114
Attention: Diana Marquez

Project: QAS/62589

Sampled: 11/09/12
Received: 11/10/12
Issued: 11/28/12 08:23

NELAP #01109CA / AZ100001 California ELAP#2446 Arizona DHS#AZ0728 Nevada #AZ01030 ORELAP #AZ100001

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

LABORATORY ID

PVK0774-01
PVK0774-02
PVK0774-03
PVK0774-04

CLIENT ID

DP138W02/38-42
DP138W02A/38-42
DP138W03/44-48
DP138W04/49.5-53.5

MATRIX

Water
Water
Water
Water

TestAmerica Phoenix

Linda Eshelman
Project Manager

Burns & McDonnell
9400 Ward Parkway
Kansas City, MO 64114
Attention: Diana Marquez

Project ID: QAS/62589

Report Number: PVK0774

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SAMPLE RECEIPT: Samples were received intact, at 1°C, on ice and with chain of custody documentation.

HOLDING TIMES: Not all holding times were met. Results were qualified where the sample analysis did not occur within method specified holding time requirements.
H4 - 8270 (1,4-Dioxane) - PVK0774-01, -02 and -03 - Sample was extracted past required extraction holding time, but analyzed within analysis holding time.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
N1a - 8270 (1,4-Dioxane) - PVK0774-01 and 03 - Concentration exceeds the calibration range and therefore result is semi-quantitative. Due to the analysis being done by isotope dilutions, dilutions cannot be performed post extraction. The sample was re-extracted past required extraction holding time, but analyzed within analysis holding time and flagged H4.
N1a/S7 - PVK0774-02 - The result on the original extraction is considered biased high due to low surrogate recoveries. The sample was re-extracted past required extraction holding time, but analyzed within analysis holding time and flagged H4.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

Reviewed By:



TestAmerica Phoenix

Linda Eshelman
Project Manager

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1,4-DIOXANE BY GC/MS (EPA 3520C/8270C MOD)

| Analyte | Method | Batch | Reporting Limit | MDL | Sample Result | Dilution Factor | Date Extracted | Date Analyzed | Data Qualifiers |
|-----------------------------------------------------------|-----------|---------|-----------------|------|---------------|-----------------|----------------|---------------|-----------------|
| Sample ID: PVK0774-01 (DP138W02/38-42 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0503 | 1.0 | 0.51 | 110 | 1 | 11/13/2012 | 11/20/2012 | N1a |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 38 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 98 % | | | | |
| Sample ID: PVK0774-01RE1 (DP138W02/38-42 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0846 | 10 | 5.1 | 120 | 10 | 11/21/2012 | 11/26/2012 | H4 |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 37 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 81 % | | | | |
| Sample ID: PVK0774-02 (DP138W02A/38-42 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0503 | 1.2 | 0.59 | 97 | 1.16 | 11/13/2012 | 11/20/2012 | N1a |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 5 % | | | | S7 |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 12 % | | | | S7 |
| Sample ID: PVK0774-02RE1 (DP138W02A/38-42 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0846 | 1.0 | 0.51 | 65 | 1.08 | 11/21/2012 | 11/26/2012 | H4 |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 33 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 78 % | | | | |
| Sample ID: PVK0774-03 (DP138W03/44-48 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0503 | 1.0 | 0.51 | 350 | 1 | 11/13/2012 | 11/20/2012 | N1a |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 36 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 85 % | | | | |
| Sample ID: PVK0774-03RE1 (DP138W03/44-48 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0846 | 20 | 10 | 400 | 20 | 11/21/2012 | 11/26/2012 | H4 |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 31 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 84 % | | | | |
| Sample ID: PVK0774-04 (DP138W04/49.5-53.5 - Water) | | | | | | | | | |
| Reporting Units: ug/l | | | | | | | | | |
| 1,4-Dioxane | EPA 8270C | 12K0503 | 1.1 | 0.58 | 46 | 1.14 | 11/13/2012 | 11/20/2012 | |
| Surrogate: 1,4-Dioxane-d8 (14-125%) | | | | | 40 % | | | | |
| Surrogate: Nitrobenzene-d5 (27-143%) | | | | | 92 % | | | | |

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METHOD BLANK/QC DATA

1,4-DIOXANE BY GC/MS (EPA 3520C/8270C MOD)

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|-------------------------------------------------------------|--------|-----------------|-------|-------------|---------------|------|-------------|-----|-----------|-----------------|
| Batch: 12K0503 Extracted: 11/13/12 | | | | | | | | | | |
| Blank Analyzed: 11/19/2012 (12K0503-BLK1) | | | | | | | | | | |
| 1,4-Dioxane | ND | 1.0 | ug/l | | | | | | | |
| Surrogate: 1,4-Dioxane-d8 | 7.07 | | ug/l | 20.0 | | 35 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 16.6 | | ug/l | 20.0 | | 83 | 27-143 | | | |
| LCS Analyzed: 11/19/2012 (12K0503-BS1) | | | | | | | | | | |
| 1,4-Dioxane | 21.2 | 1.0 | ug/l | 20.0 | | 106 | 85-116 | | | |
| Surrogate: 1,4-Dioxane-d8 | 7.61 | | ug/l | 20.0 | | 38 | 23-132 | | | |
| Surrogate: Nitrobenzene-d5 | 17.7 | | ug/l | 20.0 | | 89 | 28-150 | | | |
| LCS Dup Analyzed: 11/19/2012 (12K0503-BSD1) | | | | | | | | | | |
| 1,4-Dioxane | 21.6 | 1.0 | ug/l | 20.0 | | 108 | 85-116 | 2 | 20 | |
| Surrogate: 1,4-Dioxane-d8 | 7.45 | | ug/l | 20.0 | | 37 | 23-132 | | | |
| Surrogate: Nitrobenzene-d5 | 17.9 | | ug/l | 20.0 | | 90 | 28-150 | | | |
| Matrix Spike Analyzed: 11/19/2012 (12K0503-MS1) | | | | | | | | | | |
| 1,4-Dioxane | 37.2 | 1.0 | ug/l | 21.5 | 16.1 | 98 | 65-138 | | | |
| Surrogate: 1,4-Dioxane-d8 | 7.84 | | ug/l | 21.5 | | 36 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 19.2 | | ug/l | 21.5 | | 89 | 27-143 | | | |
| Matrix Spike Dup Analyzed: 11/19/2012 (12K0503-MSD1) | | | | | | | | | | |
| 1,4-Dioxane | 39.1 | 1.0 | ug/l | 21.3 | 16.1 | 108 | 65-138 | 5 | 20 | |
| Surrogate: 1,4-Dioxane-d8 | 5.99 | | ug/l | 21.3 | | 28 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 14.6 | | ug/l | 21.3 | | 68 | 27-143 | | | |
| Batch: 12K0846 Extracted: 11/21/12 | | | | | | | | | | |
| Blank Analyzed: 11/26/2012 (12K0846-BLK1) | | | | | | | | | | |
| 1,4-Dioxane | ND | 1.0 | ug/l | | | | | | | |
| Surrogate: 1,4-Dioxane-d8 | 6.87 | | ug/l | 20.0 | | 34 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 15.8 | | ug/l | 20.0 | | 79 | 27-143 | | | |

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METHOD BLANK/QC DATA

1,4-DIOXANE BY GC/MS (EPA 3520C/8270C MOD)

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Data Qualifiers |
|-------------------------------------------------------------|--------|-----------------|-------|-------------|------------------------------|------|-------------|-----|-----------|-----------------|
| Batch: 12K0846 Extracted: 11/21/12 | | | | | | | | | | |
| LCS Analyzed: 11/26/2012 (12K0846-BS1) | | | | | | | | | | |
| 1,4-Dioxane | 21.2 | 1.0 | ug/l | 20.0 | | 106 | 85-116 | | | |
| Surrogate: 1,4-Dioxane-d8 | 7.75 | | ug/l | 20.0 | | 39 | 23-132 | | | |
| Surrogate: Nitrobenzene-d5 | 17.0 | | ug/l | 20.0 | | 85 | 28-150 | | | |
| LCS Dup Analyzed: 11/26/2012 (12K0846-BSD1) | | | | | | | | | | |
| 1,4-Dioxane | 21.5 | 1.0 | ug/l | 20.0 | | 108 | 85-116 | 1 | 20 | |
| Surrogate: 1,4-Dioxane-d8 | 7.66 | | ug/l | 20.0 | | 38 | 23-132 | | | |
| Surrogate: Nitrobenzene-d5 | 17.4 | | ug/l | 20.0 | | 87 | 28-150 | | | |
| Matrix Spike Analyzed: 11/26/2012 (12K0846-MS1) | | | | | | | | | | |
| | | | | | Source: PVK0705-04RE1 | | | | | |
| 1,4-Dioxane | 1870 | 50 | ug/l | 1000 | 926 | 95 | 65-138 | | | |
| Surrogate: 1,4-Dioxane-d8 | 364 | | ug/l | 1000 | | 36 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 810 | | ug/l | 1000 | | 81 | 27-143 | | | |
| Matrix Spike Dup Analyzed: 11/26/2012 (12K0846-MSD1) | | | | | | | | | | |
| | | | | | Source: PVK0705-04RE1 | | | | | |
| 1,4-Dioxane | 1910 | 50 | ug/l | 1000 | 926 | 99 | 65-138 | 2 | 20 | |
| Surrogate: 1,4-Dioxane-d8 | 354 | | ug/l | 1000 | | 35 | 14-125 | | | |
| Surrogate: Nitrobenzene-d5 | 762 | | ug/l | 1000 | | 76 | 27-143 | | | |

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DATA QUALIFIERS AND DEFINITIONS

| | |
|------------|--------------------------------------------------------------------------------------------------------|
| H4 | Sample was extracted past required extraction holding time, but analyzed within analysis holding time. |
| N1 | See case narrative. |
| S7 | Surrogate recovery was below laboratory and method acceptance limits. Unable to confirm matrix effect. |
| ND | Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified. |
| RPD | Relative Percent Difference |

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THE LEADER IN ENVIRONMENTAL TESTING
TAL-0013-550 (10/10)

09112012 B

PNK0774

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 [] Tucson - 1870 W. Prince Road, Suite 59, Tucson, AZ 85705 (520) 807-3801 FAX (520) 807-3803
 [] Las Vegas - 6000 S Eastern Ave., Suite 5E, Las Vegas, NV 89119 (702) 429-1264

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Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

0.8% G.S.